

CLAIMS

1. ~~A peptide of the sequence Leu¹-Met²-Tyr³-Pro⁴-Thr⁵-Tyr⁶-Leu⁷-Lys⁸ wherein at least one of the amino acids at positions 1-8 is replaced by Dxx;~~
2. A peptide having the sequence selected from the group consisting of:
Aib-Met-Tyr-Pro-Thr-Tyr-Aib-Lys-OH (SEQ ID NO: 2);
D-Leu-Met-Tyr-Pro-Thr-Tyr-Aib-Lys-OH (SEQ ID NO: 3);
Leu-Met-Tyr-Pro-Thr-D-Tyr-Leu-Lys-OH (SEQ ID NO: 4);
Leu-Met-Tyr-Pro-Thr-Tyr-D-Leu-Lys-OH (SEQ ID NO: 5);
Leu-Met-D-Tyr-Pro-Thr-Tyr-D-Leu-Lys-OH (SEQ ID NO: 6);
D-Leu-Met-Tyr-Pro-Thr-Tyr-D-Leu-Lys-OH (SEQ ID NO: 7);
Aib-Met-Tyr-Pro-Thr-Tyr-Dxx-Lys-OH (SEQ ID NO: 8); and
D-Leu-Met-Tyr-Pro-Thr-Tyr-Dxx-Lys-OH (SEQ ID NO: 9).
3. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 1 to a patient in need thereof.
4. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 2 to a patient in need thereof.
5. ~~A peptide of the sequence D-Phe¹-Gln²-Trp³-Ala⁴-Val⁵-Gly⁶-His⁷-Leu⁸-NH₂ wherein at least one of the amino acids at positions 1-8 is replaced by Dxx.~~
6. ~~A peptide of the sequence D-Phe-Gln-Trp-Ala-Val-Gly-His-Ile-NH₂ (SEQ ID NO: 28).~~
7. ~~A peptide of the sequence D-Phe-Gln-D-Trp-Ala-Val-Gly-His-Leu-NH₂ (SEQ ID NO: 29).~~
8. A peptide according to claim 5, wherein Leu is replaced by Ile, Trp is replaced by D-Trp or a combination thereof.
9. A peptide selected from the group consisting of:
D-Phe-Gln-Trp-Ala-Val-Gly-His-Leu-NH₂ (SEQ ID NO: 11);
D-Phe-Gln-Trp-Ala-Val-Aib-His-Leu-NH₂ (SEQ ID NO: 12);
D-Phe-Gln-Trp-Aib-Val-Gly-His-Leu-NH₂ (SEQ ID NO: 13);

D-Phe-Gln-Trp-Ala-Val-Aib-His-Leu-NH₂ (SEQ ID NO: 14);
D-Phe-Gln-Trp-Ala-Val-Gly-His-Ile-NH₂ (SEQ ID NO: 15);
D-Phe-Gln-Trp-Aib-Val-Gly-His-Ile-NH₂ (SEQ ID NO: 16); and
D-Phe-Gln-Trp-Ala-Val-Aib-His-Ile-NH₂ (SEQ ID NO: 17);

5 wherein Aib represents alpha-amino isobutyric acid.

10. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 5 to a patient in need thereof.

11. A method for treating colon, breast, ovarian, lung, or prostate cancer or
10 leukemia comprising administering an effective amount of a peptide according to claim 9 to a patient in need thereof.

12. A peptide of the sequence D-Arg¹-Pro²-Lys³-Pro⁴-D-Phe⁵-Gln⁶-D-Trp⁷-Phe⁸-D-Trp⁹-Leu¹⁰-Leu¹¹-NH₂ wherein at least one of the amino acids at positions 1-11 is replaced by Dxg.

13. A peptide of the sequence D-Arg¹-Pro²-Lys³-Pro⁴-D-Phe⁵-Gln⁶-D-Trp⁷-Phe⁸-D-Trp⁹-Leu¹⁰-Leu¹¹-NH₂ wherein at least one of the amino acids at positions 1-11 is replaced by Aib.

14. A peptide according to claim 12, wherein the sequence comprises 5 to 11 amino acids.

15. A peptide according to claim 13, wherein the sequence comprises 5 to 11 amino acids.

16. A peptide selected from the group consisting of:

Aib-Met-Gln-Trp-Phe-Aib-NH₂ (SEQ ID NO:19);

Dxg-Met-Gln-Trp-Phe-Aib-NH₂ (SEQ ID NO:20);

25 D-Leu-Met-Gln-Trp-Phe-Aib-NH₂ (SEQ ID NO:21);

D-Arg-Pro-Lys-Pro-Aib-Gln-D-Trp-Phe-D-Trp-Aib-Leu-NH₂ (SEQ ID NO:22); and

Arg-Pro-Aib-Pro-D-Phe-Gln-D-Trp-Phe-D-Trp-Leu-Leu-NH₂ (SEQ ID NO:23).

30 17. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 12 to a patient in need thereof.

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18. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 13 to a patient in need thereof.

19. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 16 to a patient in need thereof.

20. A peptide of the sequence Ala¹-Gly²-Cys³-Lys⁴-Asn⁵-Phe⁶-Phe⁷-D-Trp⁸-Lys⁹-Thr¹⁰-Phe¹¹-Thr¹²-Ser¹³-D-Cys¹⁴ (disulfide bridges:3-14) wherein at least one of the amino acids at positions 1-14 is replaced by D_X.

21. A peptide of the sequence Ala¹-Gly²-Cys³-Lys⁴-Asn⁵-Phe⁶-Phe⁷-D-Trp⁸-Lys⁹-Thr¹⁰-Phe¹¹-Thr¹²-Ser¹³-D-Cys¹⁴ (disulfide bridges:3-14) wherein at least one of the amino acids at positions 1-14 is replaced by Aib.

22. A peptide of the sequence Ala-Aib-Cys-Lys-Asn-Phe-Phe-D-Trp-Lys-Thr-Phe-Thr-D-Ser-Cys (3-14 disulfide bond) (SEQ ID NO:25).

23. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 20 to a patient in need thereof.

24. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 21 to a patient in need thereof.

25. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 22 to a patient in need thereof.

26. A peptide of the sequence D-Phe¹-Cys²-Tyr³-D-Trp⁴-Orn⁵-Thr⁶-Pen⁷-Thr⁸-NH₂ wherein at least one of the amino acids at positions 1-8 is replaced by D_X.

27. A peptide of the sequence D-Phe-Cys-Tyr-D-Trp-Orn-Thr-Pen-Thr-NH₂ wherein at least one of the amino acids at positions 1-8 is replaced by Aib.

28. A peptide of the sequence D-Phe-Cys-Tyr-D-Trp-Lys-Thr-Aib-Thr-NH₂ (SEQ ID NO:27).

29. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 26 to a patient in need thereof.

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30. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 27 to a patient in need thereof.

31. A method for treating colon, breast, ovarian, lung, or prostate cancer or leukemia comprising administering an effective amount of a peptide according to claim 28 to a patient in need thereof.

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